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## **Explosives Safety Storage Criteria for Combat and Contingencies**



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In the mid 1990's it became apparent to the Department of Defense Explosives Safety Board (DDESB) that there was insufficient explosives safety criteria established for forces deployed to combat or potential combat areas. This also extended into those forces based in the Continental United States (CONUS) with mobility missions as well as those forces required to periodically provide ammunition storage in training scenarios that replicate combat conditions.

Chapter 10 of the Department of Defense (DoD) directive 6055.9-STD, DoD Ammunition and Explosives Safety Standards currently provides limited criteria for combat units. However, this chapter titled "Theater of Operations Quantity Distance" does not provide sufficient detail for all contingencies and combat operations.

In February 1997 the DDESB formed a working group to study the applicability and adequacy of the DoD 6055.9-STD, Chapter 10 as it relates to combat and contingency munitions storage. In February 1998, the group's efforts concluded when they presented a draft revision of chapter 10 to the Chairman, DDESB. This paper provides an overview of the group's efforts, presents highlights of changes seen in the "new" chapter 10, and outlines the plan for implementing this change to what has previously been referred to as Theater of Operations storage criteria.

The working group, consisting of members of each service and the DDESB Secretariat, unanimously concluded that the current Chapter 10, while applicable to combat and contingencies, is deficient in several key areas. On February 28, 1998, pursuant to their charter, the group presented a recommendation of changes and modifications to Chapter 10, DoD 6055.9-STD, to the DDESB for consideration. This document was further refined by the Secretariat, the Services and the Joint Staff and culminated in the proposed revision to Chapter 10 presented for a Board vote in August 1998. This proposal, representing over eighteen months of work, greatly enhances the

current criteria, provides flexibility for commanders, and provides a uniform minimum standard for validating and updating Service instructions.

The group's goal was to provide commanders with flexibility during the uncertain times of combat and contingency that are not normally afforded during peacetime, to better define the chapter's applicability within combatant CINC's command structure, and to allow the services the latitude to conduct safe realistic combat training using the same basic criteria as would be used during contingency and combat.

The theme evident throughout the proposed revision is risk-based management. To simplify this commanders are given two levels of separation criteria, asset preservation and minimum separation. The option of selecting the level allows commanders to make informed decisions based on operational necessity and available real-estate while knowing and understanding the amount of risk that they are accepting. Expected results for each option should there be an explosive incident are also provided. Other changes from the current Chapter 10 include:

- a. The first noticeable change is that the title of Chapter 10 has been changed from "Theater of Operations Quantity-Distance" to "Contingency and Combat Operations". This change was made to better depict the chapter's intended usage i.e., mission vice geographic location.
- b. The chapter's scope has been expanded to better define its application within certain command relationships. Terms such as Commander-In-Chief of Unified or Specified Commands (CINC), US Commander of Joint Task Forces, and Subordinate and Service Components are used to refer to levels of command.
- c. The chapter recognizes the role and function of the CINC's and their subordinate commanders and authorizes them to approve site plans as well as deviations from explosives safety standards when applicable.
- d. Another significant change is that the chapter allows the use of the it's criteria for combat training sites both in CONUS and OCONUS when specifically authorized by Service headquarters.
- e. Throughout the chapter the use of risk analysis is promoted when quantity distance can not be met because of operational considerations. The Chapter provides operational flexibility not available in other parts of the Standard. The use of asset preservation distance is intended to maintain mission capability by preventing propagation or reaction between potential explosion sites (PES's) while minimum separation distances only prevent prompt propagation allowing for possible late time propagation or reaction between PESs.
- f. The site planning, documentation and approval process have been laid out sequentially describing requirements for each of three categories of facilities or operations; Temporary, Recurrent, and Permanent.

- g. The revised Basic Load Ammunition Holding Section incorporates quantity distance separation criteria for heavy and light armor and non-armor vehicles.
- h. The Field Storage and Handling Section identifies common storage and handling areas found at field storage locations.
- i. The Forward Arm and Refuel Points Section provide guidance for ammunition storage, buildup and armament pads for attack rotary wing aircraft.
- j. The Airfield Criteria Section provides the two levels of protection as the other sections as well as special criteria for Static Missile Batteries.
- k. A Separation of Fuel Section has been added. This section address both bulk fuel operational fuel storage and their separation from ammunition and explosives.

The proposed revision of this chapter will in turn require two minor changes to Chapter 9 where it refers to specific parts of Chapter 10. It will also require an update to the Glossary at Appendix A.

By adopting this revision to Chapter 10 the Services and in particular the CINC's will have definitive Defense level guidance for the safe storage of munitions during the pursuit of armed conflict, contingencies and military operations other than war.